

Figures 2a and 2b illustrate nip 30 between rollers 18, 22 as they act on web 16. In Figure 2a the portion of web shown 16 is free of any contaminants, it is seen than that web 16 is embossed between the protuberances 20 of roller 18 and the recesses of roller 24 as web 16 is deflected therebetween, with the gap defined as the distance between rollers 18, 22. In Figure 2b the portion of web shown 16 includes a contaminating particle 40, such as a particle of glue or plastic, it is seen that web 16 is again deflected between the protuberances 20 of roller 18 and the recesses of roller 24, however particle 40, which may be non-compressible, will also be lodged between protuberance 20 and recess 24. However, as roller 22 is formed from deformable material a temporary recess 42 will be formed in recess 24 of roller 22 which permits particle 40 to pass without damaging rollers 18, 22. If both rollers were formed from harder material contaminants would easily damage, or become lodged in, the rollers.

(marked-up version to amended Claims 1, 5, 10 and 13 and new Claims 17-20)

- 1. (Amended) A method for embossing a fibrous web <u>incorporating recycled pulp</u> containing contaminants to improve the bulk and softness of the web by passing the web through a nip formed by a pair of rotating rollers, wherein the contaminants will not damage the rollers, the method comprising:
 - a) providing a first embossing roller having an outer surface, said outer surface having a
 plurality of male protuberances thereon corresponding to a desired embossed pattern;
 - b) providing a second embossing roll having an outer surface having a plurality of female recessed portions which are matched to the male protuberances of the first roll;
 - c) wherein one of said first and second embossing rollers has a Shore A hardness of 40-65 and the other roller has a Shore A hardness of at least about 90; and
 - d) placing the rolls in contact to form a nip between the rolls, with the protuberances of the first roll entering the recesses of the second roll as the rolls rotate together; and passing a fibrous web through the nip formed by the rolls to emboss the web wherein the roller having the Shore A hardness of 40-65 will deform if any contaminants are encountered in the fibrous web such that a fibrous web including recycled pulp containing contaminants may be embossed without causing excess wear or damage to the embossing rollers.
- 5. (Amended) Apparatus for embossing a fibrous web incorporating recycled pulp containing contaminants so that the contaminants will not damage the rollers, comprising:

- a) a first rotating embossing roller having an outer surface, said outer surface having a plurality of male protuberances thereon corresponding to a desired embossed pattern;
- b) a second rotating embossing roller having an outer surface having a plurality of female recessed portions which are matched to the male protuberances of the first roller;
- c) wherein one of said first and second embossing rollers have differing hardnesses; and
- wherein the first and second rollers are disposed to form a nip between the rolls, with the protuberances of the first roll entering the recesses of the second roll as the rolls rotate together; to permit the fibrous web thermoplastic through the nip formed by the rollers, wherein the roller having the lesser hardness will deform upon contact with a contaminant in the fibrous web wherein one of said first and second embossing rollers has a Shore hardness of 40-65 and the other roller has a Shore A hardness of at least about 95 such that a fibrous web including recycled pulp containing contaminants may be embossed without causing excess wear or damage to the embossing rollers.
- 10. (Amended) A method to update paper embossing machinery having matched pairs of embossing rollers to enable the machinery to accommodate <u>recycled</u> pulp that <u>may contains</u> contaminants, comprising the steps of:
 - a) providing a embossing roller comprising material having a Shore A hardness of 40 65;
 - b) utilizing one of each pair of embossing rollers to produce a matched opposite roller from the embossing roller of material having a Shore A hardness of 40-65; and
 - c) replacing one of each matched pair of embossing rollers with the roller produced from material having a Shore A hardness of 40-65 such that a fibrous web including

recycled pulp containing contaminants may be embossed without causing excess wear or damage to the embossing rollers.

- 13. (Amended) A method for embossing a fibrous web <u>incorporating recycled pulp</u> containing contaminants to improve the bulk and softness of the web by passing the web through a nip formed by a pair of rotating rollers, wherein the contaminants will not damage the rollers, the method comprising:
 - a) providing a first embossing roller having an outer surface, said outer surface having a
 plurality of male protuberances thereon corresponding to a desired embossed pattern;
 - b) providing a second embossing roll having an outer surface having a plurality of female recessed portions which are matched to the male protuberances of the first roll;
 - c) wherein at least one of said first and second embossing rollers is a laser engraved roller and has a Shore A hardness of from about 40 to about 9565; and
 - d) placing the rolls in contact to form a nip between the rolls, with the protuberances of the first roll entering the recesses of the second roll as the rolls rotate together; and passing a fibrous web through the nip formed by the rolls to emboss the web wherein the roller having the Shore A hardness of from about 40 to about 95-65 will deform if any contaminants are encountered in the fibrous web such that a fibrous web including recycled pulp containing contaminants may be embossed without causing excess wear or damage to the embossing rollers.
- 17. (New) The method according to Claim 1, wherein the contaminants in the recycled pulp include stickies.

- 18. (New) The apparatus according to Claim 5, wherein thr apparatus is thereby adapted to emboss a web including recycled pulp containing stickies.
- 19. (New) The method according to Claim 10, wherein the recycled pulp contains stickies.
- 20. (New) The method according to Claim 13, wherein the recycled pulp contains stickies.